Notice of Allowability	**Application No.** 10/683,903	**Applicant(s)** SPIEGELMAN ET AL.	
	Examiner Sharidan Carrillo	**Art Unit** 1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *7/26/2006*.
2. ☒ The allowed claim(s) is/are *1-5,8-15,18-22,24-31 and 36-38*.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 8/4/2005, 7/24/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

SHARIDAN CARRILLO
PRIMARY EXAMINER

DETAILED ACTION

Election/Restrictions

1. Newly submitted claim 32-35 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-5, 8-15, 18-22, 24-31 and 36-38, drawn to a purified purge gas comprising oxygen, classified in class 134, subclass 30.

II. Claims 32--35, drawn to a purified purge gas comprising extra clean dry air, classified in class 134, subclass 31.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different modes of operation since the invention of Group I is directed to using purified oxygen in comparison to the invention of Group II which uses a different purge gas of extra clean dry air.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 32-35 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

4. Authorization for this examiner's amendment was given in a telephone interview with Mr. Colin Durham on 9/26/2006.

5. The application has been amended as follows:

Cancel claims 23, and 32-35.

Amend the claims 1, 12, 27, 29, 31, and 36-38 as follows:

1. (Currently amended) A method for the removal of airborne molecular contaminants (AMC) from a substrate comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen, the purified purge gas having a contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the substrate with the purified purge gas at a temperature of about 20°C to ~~about~~ 100°C that does not change or chemically alter the AMC, the substrate contaminated with AMC before the substrate is contacted with purified purge gas;

producing a contaminated purge gas by transferring AMC from the substrate into the purified purge gas, the contaminated purge gas including AMC from the substrate; and

removing the contaminated purge gas from the substrate;

thereby removing AMC from the substrate.

12. (Currently amended) A method for the removal of airborne molecular contaminants (AMC) from a substrate comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen at a concentration between about 1 % and 25 % on a volume basis and the purified purge gas has a contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the substrate with the purified purge gas at a temperature of about 20°C to ~~about~~ 100°C that does not change or chemically alter the AMC, the substrate contaminated with AMC before the substrate is contacted with purified purge gas;

producing a contaminated purge gas by transferring AMC from the substrate into the purified purge gas, the contaminated purge gas including AMC from the substrate; and

removing the contaminated purge gas from the substrate;

thereby removing AMC from the substrate.

27. (Currently amended) A method for the removal of airborne molecular contaminants (AMC) from a wafer comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen, the purified purge gas having a contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the wafer with the purified purge gas under temperature conditions that ~~does~~ do not change or chemically alter the AMC, the wafer contaminated with AMC before the wafer is contacted with purified purge gas;

producing a contaminated purge gas by transferring AMC from the wafer into the purified purge gas, the contaminated purge gas including AMC from the wafer; and

removing the contaminated purge gas from the wafer;

thereby removing AMC from the wafer.

29. (Currently amended) The method as in Claim 1, wherein the portion of the substrate and the purified purge gas are contacted at a temperature of ~~about~~ 80°C to ~~about~~ 100°C.

31. (Currently amended) The method as in Claim 12, wherein the portion of the substrate and the purified purge gas are contacted at a temperature of ~~about~~ 80°C to ~~about~~ 100°C.

36. (Currently Amended) A method for the removal of airborne molecular contaminants (AMC) from a wafer processing or wafer storage chamber comprising:

providing a purified purge gas, wherein the purified purge gas comprises oxygen, the purified purge gas having a contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons;

contacting at least a portion of the wafer processing or wafer storage chamber with the purified purge gas under temperature conditions that do ~~does~~ not change or chemically alter the AMC, the wafer processing or wafer storage chamber contaminated with AMC before the wafer processing or wafer storage chamber is contacted with purified purge gas;

producing a contaminated purge gas by transferring AMC from the wafer processing or wafer storage chamber into the purified purge gas, the contaminated purge gas including AMC from the wafer processing or wafer storage chamber; and

removing the contaminated purge gas from the wafer processing or wafer storage chamber; thereby removing AMC from the wafer processing or wafer storage chamber.

37. (Currently Amended) The method as in Claim [[~~32~~]] 27, wherein contacting at least a portion of the wafer with the purified purge gas includes contacting the portion of the wafer with the purified purge gas at a temperature of about 20°C to ~~about~~ 100°C.

38. (Currently Amended) The method as in Claim 36, wherein contacting at least a portion of the wafer processing or wafer storage chamber with the purified purge gas includes contacting the portion of the wafer processing or wafer storage chamber with the purified purge gas at a temperature of about 20°C to ~~about~~ 100°

6. The following is an examiner's statement of reasons for allowance: The prior art fails to teach or suggest a purified purge gas comprising oxygen having a contaminant concentration of less than about 1 part per billion (ppb) on a volume basis of at least one of the contaminants selected from the group consisting of sulfur oxides, nitrogen oxides, Si-containing organics, organophosphates, amines, volatile bases, volatile acids, refractory compounds, volatile metal compounds, and non-methane hydrocarbons and contacting the substrate with the purified purge gas at temperature conditions that does not change or chemically alter the AMC present on the substrate

surface. Specifically, Somekh teaches purging with purge oxygen such that the contaminants present on the substrate surface are oxidized.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. The rejection of the claims under 112, first and second paragraphs are withdrawn in view of the newly amended claims.

8. The rejections of the claims as being anticipated and obvious over Somekh in view of the secondary references are withdrawn in view of the amended limitations. Specifically, Somekh teaches chemically altering the AMC by oxidation, which teaches away from applicant's limitations of temperature conditions that do not change or chemically alter the AMC.

9. The double patenting rejections over copending Application No: 10/683904, now U.S. Patent 6,913,654 and copending application 11/113726 are withdrawn in view of the newly amended claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on M-W 6:30-4:00pm, alternating Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on 571-272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sharidan Carrillo
Primary Examiner
Art Unit 1746

bsc

SHARIDAN CARRILLO
PRIMARY EXAMINER